

WHAT IS CLAIMED IS:

1. A thermal fixing device comprising:

a fixing member disposed to be in contact with a fixation medium;

5 a pressuring member disposed to face the fixing member and configured to press the fixation medium against the fixing member;

a conveying unit configured to convey the fixation medium that has passed through between the fixing member and the  
10 pressuring member;

a conveyance member configured to convey the fixation medium, and configured to be in contact with the fixation medium on a surface that is opposite to a surface where the fixing member contacts with at a position that is downstream of the fixing  
15 member with respect to a conveyance direction of the fixation medium and is upstream of a conveyance position where the conveyance unit conveys the fixation medium; and

a guide member disposed to face the conveyance member and configured to guide the fixation medium to the conveyance  
20 position.

2. The thermal fixing device as claimed in claim 1, wherein the conveying unit comprises the conveyance member.

3. The thermal fixing device as claimed in claim 1, wherein the conveying unit comprises:

25 a first conveyance roller; and

a plurality of second conveyance rollers disposed along the conveyance direction of the fixation medium, and each disposed to face the first conveyance roller to support and convey the fixation medium.

5 4. The thermal fixing device as claimed in claim 1, wherein the pressuring member comprises a plurality of the pressuring members disposed along the conveyance direction of the fixation medium.

5. The thermal fixing device as claimed in claim 1, wherein  
10 a part of the conveyance member is disposed on a line connecting the conveyance position and a contact portion where the fixing member contacts the pressuring member.

6. The thermal fixing device as claimed in claim 1, wherein the guide member is disposed along a direction of a line that  
15 intersects with a tangential line of the fixing member at a contact portion where the fixing member contacts the pressuring member.

7. The thermal fixing device as claimed in claim 1, wherein the fixing member comprises a fixing roller, and  
20 wherein the guide member is disposed away by not less than 5 mm downstream along a surface of the fixing roller from a contact portion where the fixing roller contacts the pressuring member, and is disposed along a line connecting a rotation center of the fixing roller and one end of the guide member which is facing  
25 the fixing roller.

8. The thermal fixing device as claimed in claim 1, wherein the fixing member comprises a fixing roller, and

wherein the guide member is disposed away by not less than 5 mm downstream along a surface of the fixing roller from a contact portion where the fixing roller contacts the pressuring member, and is disposed so that one end of the guide member is separated from the conveyance member with respect to a line connecting a rotation center of the fixing roller and the other end of the guide member which is facing the fixing roller.

9. The thermal fixing device as claimed in claim 1, wherein a dynamic friction coefficient of the conveyance member at a contact portion where the conveyance member contacts the fixation medium is larger than a dynamic friction coefficient of the guide member at a contact portion where the guide member contacts the fixation medium.

10. The thermal fixing device as claimed in claim 1, wherein a contact portion of the conveyance member where the conveyance member contacts the fixation medium is made of elastic material, and

a contact portion of the guide member where the guide member contacts the fixation medium is made of metal material.

11. The thermal fixing device as claimed in claim 3, wherein a part of the conveyance member is disposed on a line connecting the conveyance position and a contact portion where the fixing member contacts the pressuring member.

12. The thermal fixing device as claimed in claim 11, wherein the pressuring member comprises a plurality of the pressuring members disposed along the conveyance direction of the fixation medium, and

5 wherein the line connecting the conveyance position and the contact portion corresponds to a line connecting a portion where the pressuring member that is disposed the most downstream contacts the fixing member and a portion where the first conveyance roller contacts to the second conveyance roller that  
10 is disposed the most upstream.

13. The thermal fixing device as claimed in claim 12, wherein the guide member is disposed along a direction of a line that intersects with a tangential line of the fixing member at a contact portion where the fixing member contacts the pressuring  
15 member, and

wherein the line that intersects with the tangential line corresponds to a line that intersects with a tangential line of the fixing member at a portion where the fixing member contacts the pressuring member that is disposed the most downstream.

20 14. The thermal fixing device as claimed in claim 4, wherein the guide member is disposed along a direction of a line that intersects with a tangential line of the fixing member at a contact portion where the fixing member contacts the pressuring member, and

25 wherein the line that intersects with the tangential line

corresponds to a line that intersects with a tangential line of the fixing member at a portion where the fixing member contacts the pressuring member that is disposed the most downstream.

15. The thermal fixing device as claimed in claim 4, wherein  
5 the fixing member comprises a fixing roller, and

wherein the guide member is disposed away by not less than 5 mm downstream along a surface of the fixing roller from a contact portion where the fixing roller contacts the pressuring member that is disposed the most downstream, and is disposed along a  
10 line connecting a rotation center of the fixing roller and one end of the guide member which is facing the fixing roller.

16. The thermal fixing device as claimed in claim 4, wherein the fixing member comprises a fixing roller, and

wherein the guide member is disposed away by not less than  
15 5 mm downstream along a surface of the fixing roller from a contact portion where the fixing roller contacts the pressuring member that is disposed the most downstream, and is disposed so that one end of the guide member is separated from the conveyance member with respect to a line connecting a rotation center of  
20 the fixing roller and the other end of the guide member which is facing the fixing roller.

17. An image forming apparatus comprising:

a sheet feeding section configured to feed a sheet; and

an image forming section configured to form an image on  
25 the sheet fed by the sheet feeding section,

wherein the image forming section includes a thermal fixing device comprising:

a fixing member disposed to be in contact with the sheet;

a pressuring member disposed to face the fixing member and  
5 configured to press the sheet against the fixing member;

a conveying unit configured to convey the sheet that has passed through between the fixing member and the pressuring member;

a conveyance member configured to convey the sheet, and  
10 configured to be in contact with the sheet on a surface that is opposite to a surface where the fixing member contacts with at a position that is downstream of the fixing member with respect to a conveyance direction of the sheet and is upstream of a conveyance position where the conveyance unit conveys the sheet;  
15 and

a guide member disposed to face the conveyance member and configured to guide the sheet to the conveyance position.

18. The image forming apparatus as claimed in claim 17, wherein the conveying unit comprises the conveyance member.

20 19. The image forming apparatus as claimed in claim 17, wherein the conveying unit comprises:

a first conveyance roller; and

a plurality of second conveyance rollers disposed along the conveyance direction of the sheet, and each disposed to face  
25 the first conveyance roller to support and convey the sheet.

20. The image forming apparatus as claimed in claim 17, wherein the pressuring member comprises a plurality of the pressuring members disposed along the conveyance direction of the sheet.

21. The image forming apparatus as claimed in claim 17, wherein  
5 a part of the conveyance member is disposed on a line connecting the conveyance position and a contact portion where the fixing member contacts the pressuring member.

22. The image forming apparatus as claimed in claim 17, wherein  
10 the guide member is disposed along a direction of a line that intersects with a tangential line of the fixing member at a contact portion where the fixing member contacts the pressuring member.

23. The image forming apparatus as claimed in claim 17, wherein the fixing member comprises a fixing roller, and  
15 wherein the guide member is disposed away by not less than 5 mm downstream along a surface of the fixing roller from a contact portion where the fixing roller contacts the pressuring member, and is disposed along a line connecting a rotation center of the fixing roller and one end of the guide member which is facing  
20 the fixing roller.

24. The image forming apparatus as claimed in claim 17, wherein the fixing member comprises a fixing roller, and  
wherein the guide member is disposed away by not less than 5 mm downstream along a surface of the fixing roller from a contact  
25 portion where the fixing roller contacts the pressuring member,

and is disposed so that one end of the guide member is separated from the conveyance member with respect to a line connecting a rotation center of the fixing roller and the other end of the guide member which is facing the fixing roller.

5 25. The image forming apparatus as claimed in claim 17, wherein a dynamic friction coefficient of the conveyance member at a contact portion where the conveyance member contacts the sheet is larger than a dynamic friction coefficient of the guide member at a contact portion where the guide member contacts the sheet.

10 26. The image forming apparatus as claimed in claim 17, wherein a contact portion of the conveyance member where the conveyance member contacts the sheet is made of elastic material, and  
a contact portion of the guide member where the guide member contacts the sheet is made of metal material.

15 27. The image forming apparatus as claimed in claim 19, wherein a part of the conveyance member is disposed on a line connecting the conveyance position and a contact portion where the fixing member contacts the pressuring member.

20 28. The image forming apparatus as claimed in claim 27, wherein the pressuring member comprises a plurality of the pressuring members disposed along the conveyance direction of the sheet, and

wherein the line connecting the conveyance position and the contact portion corresponds to a line connecting a portion  
25 where the pressuring member that is disposed the most downstream



contacts the fixing member and a portion where the first conveyance roller contacts to the second conveyance roller that is disposed the most upstream.

29. The image forming apparatus as claimed in claim 28, wherein  
5 the guide member is disposed along a direction of a line that intersects with a tangential line of the fixing member at a contact portion where the fixing member contacts the pressuring member, and

wherein the line that intersects with the tangential line  
10 corresponds to a line that intersects with a tangential line of the fixing member at a portion where the fixing member contacts the pressuring member that is disposed the most downstream.

30. The image forming apparatus as claimed in claim 20, wherein  
15 the guide member is disposed along a direction of a line that intersects with a tangential line of the fixing member at a contact portion where the fixing member contacts the pressuring member, and

wherein the line that intersects with the tangential line  
20 corresponds to a line that intersects with a tangential line of the fixing member at a portion where the fixing member contacts the pressuring member that is disposed the most downstream.

31. The image forming apparatus as claimed in claim 20, wherein the fixing member comprises a fixing roller, and

wherein the guide member is disposed away by not less than  
25 5 mm downstream along a surface of the fixing roller from a contact

portion where the fixing roller contacts the pressuring member that is disposed the most downstream, and is disposed along a line connecting a rotation center of the fixing roller and one end of the guide member which is facing the fixing roller.

5 32. The image forming apparatus as claimed in claim 20, wherein the fixing member comprises a fixing roller, and

wherein the guide member is disposed away by not less than 5 mm downstream along a surface of the fixing roller from a contact portion where the fixing roller contacts the pressuring member  
10 that is disposed the most downstream, and is disposed so that one end of the guide member is separated from the conveyance member with respect to a line connecting a rotation center of the fixing roller and the other end of the guide member which is facing the fixing roller.

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